

STORAGE SWITZERLAND REPORT

REDUCING COSTS BY BRINGING AS/400 INTO THE BACKUP MAINSTREAM



The IBM AS/400 or iSeries has been in the data center for a long time and there are over 750,000 systems in operation today. Almost as long as they have been implemented there has been the challenge of integrating these systems into the broader enterprise backup process. Backup technologies like deduplication, power managed storage and electronic vaulting of backup data are continuing to advance. As such, many backup managers are asking about bringing AS/400 into the backup mainstream.

By modernizing AS/400 backups and leveraging new backup technologies; organizations can substantially reduce costs, increase performance, consolidate backup strategies and facilitate remote tape replication.

The first goal in modernizing the AS/400 backup environment however is it to do no harm. The upgrade should be transparent to the AS/400. For example, products like [Tributary Systems Inc. Director](#) merely appear to the AS/400 as a standard IBM tape library. No changes have to be made on the AS/400 itself. This is also critical from a compliance standpoint, since many AS/400's are used to running a financial application and maintaining data authenticity is critical.

Once a solution can be found that does no harm, the next step is to determine if consolidating backup processes

can reduce costs. In the AS/400 environment this can be easily achieved. A large majority of these systems are islands unto themselves and each one is typically sold with its own standalone tape library. For example, one AS/400 customer in the travel services market has over 75 AS/400's, each with tape changers attached to them.

This one-to-one library-to-server layout creates substantial capital and operational expenditures. At approximately \$25,000 per tape library, all 75 of these libraries could be replaced by a single mid sized tape library costing less than \$100,000. Each of these libraries need maintenance, assuming a typical 15% of list maintenance charge, this organization may be paying over \$200,000 per year just in maintenance. This could easily cost justify the expense of a new library which would be under warranty for the next three years, and afterward would typically cost about \$15,000 in ongoing annual maintenance.

Outside of the hard costs there is also an operational cost to have a team of administrators jockey 75 tape stackers, servicing 75 tape loads and reloads per day. Most AS/400 installations run individual tape software applications on the host, often the provided protection using savelib or BRMS. As a result there is no single tape library to go to when verifying a tape job completes, facilitating new tape insertion or pulling tapes to move offsite.

In addition to the human expense of manually having to perform all of these tasks, there is also the risk and expense associated with something going wrong or not getting done. For example what if the wrong tapes, daily tapes for example are moved offsite for DR and subsequently are needed for the next days backup job? Not only does the backup fail because the tapes are not available but there is also the expense of getting those tapes recalled AND what if a disaster does occur, but the wrong tapes are available and the right tapes were destroyed?

There is also the cost of lowered IT staff efficiency as a result of having to individually monitor and manage 75 different backup jobs. In many cases each AS/400 has to be individually logged into, its backup logs checked for successful completion and if there is a failure time has to be found to rerun the job. Typically the inspection of the AS/400 backups is not done by an enterprise backup administrator but by the AS/400 administrators who are busy with the needs of the AS/400 environment and may not have time or the focus to do a thorough inspection each day.

By contrast the enterprise backup administrator often is solely focused on backups or is at least backups are a primary responsibility, yet they are often excluded, sometimes willingly, from being able to safeguard AS/400 data. The result is the person who could most efficiently and effectively manage the AS/400 backup process is not able too and AS/400 administrators who have enterprise critical applications to maintain are forced too, all leading to wasted IT resources and exposing data to undue risk.

Reducing costs with Backup Virtualization on the AS/400

Backup virtualization that can include the AS/400 environment from companies like TTI can dramatically reduce the data protection costs associated with the AS/

400 backup process. Backup virtualization allows for multiple backup applications, multiple backup media targets and multiple operating environments to be centralized and consolidated in much the same way that server virtualization allows multiple applications to be consolidated on a single physical server.

Server virtualization is successful because it allows the data center to consolidate physical hardware without having to change the application's operating environment. If the application runs best on MS-SQL under Microsoft Windows or Oracle under Linux, the IT team does not need to change applications in order to consolidate. Server virtualization merely allows the environments to run, protected from each other, on the same physical hardware.

Backup virtualization delivers the same functionality to the backup process. Multiple operating environments; Windows, Linux, UNIX and AS/400 can be centralized on to a single scalable hardware platform. Yet each environment can utilize the application that the user feels is best suited to protect it, while at the same time optimally using the backup resources across all of those environments.

In the AS/400 environment in particular where the data protection resources are most often deployed in a 1:1 manor this translates into significant savings. Using the example above, the 75 AS/400s could easily be protected by a single tape library, eliminating 75 low end libraries, 75 individual points of management, improving tapes optimization as well as improving both AS/400 admin and backup admin efficiencies. This would allow them to focus on what they do best, and most importantly the AS/400 administrators get their weekends back.

Backup virtualization for mixed environments, especially those with AS/400, can dramatically reduce data protection costs while increasing IT efficiency.

About Storage Switzerland

Storage Switzerland, is an analyst firm focused on the virtualization and storage marketplaces. For more information please visit our web site: <http://www.storage-switzerland.com>.